

ELECTROTHERMAL RACK OF HAIR DRYER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to an electrothermal rack of a hair dryer, and more particularly to an electrothermal rack of a hair dryer having a greater heating efficiency.

2. Description of the Related Art

A conventional electrothermal rack of a hair dryer in accordance with the prior art shown in FIGS. 1-3 comprises a plurality of positioning plates 1 each mounted in the air outlet pipe 4 of the hair dryer and each formed with a plurality of recesses 2, and an electrothermal body 3 wound around each of the positioning plates 1 and received in each of the recesses 2 of each of the positioning plates 1. Thus, the electrothermal body 3 forms a multi-loop layer.

However, each of the positioning plates 1 has a uniform width, so that the loops of the electrothermal body 3 interfere with each other in the axial direction of the airflow, thereby decreasing the heating efficiency of the hair dryer. In addition, the electrothermal body only has a single multi-loop layer so that the heating area of the electrothermal rack is not large enough, thereby decreasing the heating efficiency of the hair dryer.

SUMMARY OF THE INVENTION

1 The present invention is to mitigate and/or obviate the disadvantage
2 of the conventional electrothermal rack of a hair dryer.

3 The primary objective of the present invention is to provide an
4 electrothermal rack of a hair dryer, wherein the electrothermal body forms a
5 multi-loop inner layer and a multi-loop outer layer around the support wings of
6 the main body so as to increase the heating area of the electrothermal rack of
7 the hair dryer, thereby enhancing the heating efficiency of the hair dryer.

8 Another objective of the present invention is to provide an
9 electrothermal rack of a hair dryer, wherein the electrothermal body forms a
10 plurality of loops which are arranged in a staggered manner without interfering
11 with each other, so that the air modules can be heated smoothly and evenly,
12 thereby producing a stable and uniform air flow when blown outward from the
13 hair dryer.

14 A further objective of the present invention is to provide an
15 electrothermal rack of a hair dryer, wherein the electrothermal body forms a
16 multi-loop inner layer and a multi-loop outer layer, so that the electrothermal
17 body has a greater length. Thus, the longer electrothermal body has a smaller
18 heating rate per unit volume, so that the electrothermal body is not easily fused
19 or worn out, thereby increasing the lifetime of the electrothermal body.

20 In accordance with the present invention, there is provided an
21 electrothermal rack of a hair dryer, comprising a main body including a
22 plurality of support wings, wherein:

1 each of the support wings has a mediate portion formed with a
2 positioning section;

3 the positioning section of each of the support wings has an outer side
4 formed with a plurality of inner insertion recesses;

5 each of the support wings has an outer side formed with an elongated
6 protruding plate;

7 the protruding plate of each of the support wings has an outer side
8 formed with a plurality of outer insertion recesses; and

9 each of the support wings is formed with an elongated slideway
10 which is defined between the outer side of the positioning section and the inner
11 side of the protruding plate.

12 Further benefits and advantages of the present invention will become
13 apparent after a careful reading of the detailed description with appropriate
14 reference to the accompanying drawings.

15 **BRIEF DESCRIPTION OF THE DRAWINGS**

16 FIG. 1 is a perspective view of a conventional electrothermal rack of
17 a hair dryer in accordance with the prior art;

18 FIG. 2 is a perspective assembly view of the conventional
19 electrothermal rack of a hair dryer in accordance with the prior art;

20 FIG. 3 is a side plan cross-sectional view of the conventional
21 electrothermal rack of a hair dryer as shown in FIG. 2;

1 FIG. 4 is a perspective view of an electrothermal rack of a hair dryer
2 in accordance with the preferred embodiment of the present invention;

3 FIG. 5 is a perspective assembly view of the electrothermal rack of a
4 hair dryer in accordance with the preferred embodiment of the present
5 invention;

6 FIG. 6 is a plan view of the electrothermal rack of a hair dryer as
7 shown in FIG. 5;

8 FIG. 7 is a side plan cross-sectional view of the electrothermal rack
9 of a hair dryer as shown in FIG. 5; and

10 FIG. 8 is an exploded perspective view of the electrothermal rack of
11 a hair dryer as shown in FIG. 4.

12 **DETAILED DESCRIPTION OF THE INVENTION**

13 Referring to the drawings and initially to FIGS. 4-7, an
14 electrothermal rack of a hair dryer in accordance with the preferred
15 embodiment of the present invention comprises a main body 10 including a
16 plurality of support wings 11. Preferably, the main body 10 includes four
17 support wings 11 each extending outward in a radiating manner.

18 Each of the support wings 11 has a mediate portion formed with a
19 positioning section 112. The positioning section 112 of each of the support
20 wings 11 has a first end and a second end and has a thickness gradually
21 increased from the first end to the second end thereof, so that the positioning

1 section 112 of each of the support wings 11 has a tapered configuration. In
2 addition, the positioning section 112 of each of the support wings 11 has an
3 outer side formed with a plurality of inner insertion recesses 114.

4 Each of the support wings 11 has an outer side formed with an
5 elongated protruding plate 12. The protruding plate 12 of each of the support
6 wings 11 is extended along the outer side of the positioning section 112 and has
7 a first end integrally extended from each of the support wings 11. The
8 protruding plate 12 of each of the support wings 11 has an outer side formed
9 with a plurality of outer insertion recesses 122. In addition, the outer side of the
10 protruding plate 12 has a tapered configuration and is in parallel with the outer
11 side of the positioning section 112.

12 Each of the support wings 11 is formed with an elongated slideway
13 13 which is defined between the outer side of the positioning section 112 and
14 the inner side of the protruding plate 12. The slideway 13 of each of the support
15 wings 11 communicates with each of the inner insertion recesses 114 of the
16 positioning section 112. The slideway 13 of each of the support wings 11 has a
17 distal end formed with an opening 130 extended through a second end of the
18 protruding plate 12 and connected to the ambient environment.

19 In assembly, a strip shaped electrothermal body 90 is mounted on the
20 main body 10. Then, the electrothermal body 90 is extended through the
21 opening 130 into the slideway 13 and is inserted into and rested on the inner
22 insertion recess 114 of the positioning section 112 of each of the support wings

1 11. In such a manner, the electrothermal body 90 is in turn wound around each
2 of the inner insertion recesses 114 of the positioning section 112 of each of the
3 support wings 11 to form a plurality of loops, so that the electrothermal body
4 90 forms a multi-loop inner layer around the positioning section 112 of each of
5 the support wings 11. Then, the electrothermal body 90 is in turn wound
6 around each of the outer insertion recesses 122 of the protruding plate 12 of
7 each of the support wings 11 to form a plurality of loops, so that the
8 electrothermal body 90 forms a multi-loop outer layer around the protruding
9 plate 12 of each of the support wings 11.

10 Thus, the electrothermal body 90 forms a multi-loop inner layer and
11 a multi-loop outer layer around the support wings 11 of the main body 10 as
12 shown in FIGS. 5 and 6.

13 Accordingly, the electrothermal body 90 forms a multi-loop inner
14 layer and a multi-loop outer layer around the support wings 11 of the main
15 body 10 so as to increase the heating area of the electrothermal rack of the hair
16 dryer, thereby enhancing the heating efficiency of the hair dryer. In addition,
17 the electrothermal body 90 forms a plurality of loops which are arranged in a
18 staggered manner without interfering with each other, so that the air modules
19 can be heated smoothly and evenly, thereby producing a stable and uniform air
20 flow when blown outward from the hair dryer. Further, the electrothermal body
21 90 forms a multi-loop inner layer and a multi-loop outer layer, so that the
22 electrothermal body 90 has a greater length. Thus, the longer electrothermal

1 body 90 has a smaller heating rate per unit volume, so that the electrothermal
2 body 90 is not easily fused or worn out, thereby increasing the lifetime of the
3 electrothermal body 90.

4 Referring to FIG. 8, the main body 10 includes a first board 20 and a
5 second board 30 combined with each other. Each of the first board 20 and the
6 second board 30 has two sides each formed with the support wing 11. The first
7 board 20 has an end having a center formed with a first insertion slot 22, and
8 the second board 30 has an end having a center formed with a second insertion
9 slot 32. The total length of the first insertion slot 22 and the second insertion
10 slot 32 is equal to the axial length of the first board 20 and the second board 30.
11 Thus, the second board 30 is inserted into the first insertion slot 22 of the first
12 board 20, and the first board 20 is inserted into the second insertion slot 32 of
13 the second board 30, thereby forming the main body 10.

14 Although the invention has been explained in relation to its preferred
15 embodiment(s) as mentioned above, it is to be understood that many other
16 possible modifications and variations can be made without departing from the
17 scope of the present invention. It is, therefore, contemplated that the appended
18 claim or claims will cover such modifications and variations that fall within the
19 true scope of the invention.